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AMENDMENTS TO THE CLAIMS

1. (Previously presented) A plasma tube comprising:

an open ended cylindrical body, wherein the body includes a gas inlet at one end, and an outlet at an other end; and

at least one conductive fiber secured to the body and positioned to enhance an electric field, wherein the at least one conductive fiber is free from connection to a voltage power source.

2. (Original) The plasma tube according to claim 1, wherein a portion of the conductive fiber is encased within a protective coating.

3. (Original) The plasma tube according to claim 1, wherein a portion of the conductive fiber is in contact with the body.

4. (Original) The plasma tube according to claim 1, wherein the conductive fiber comprises a material selected from the group consisting of tantalum, tungsten, gold, copper, silver, molybdenum, aluminum, carbon, graphite, palladium, platinum, ceramics, and composites or compositions comprising at least one of the foregoing materials.

5. (Original) The plasma tube according to claim 1, wherein the conductive fiber is a platinum coated silicon carbide fiber.

6. (Original) The plasma tube according to claim 1, wherein the conductive fiber comprises a length of less than about 10 millimeters.

7. (Original) The plasma tube according to claim 1, wherein the conductive fiber comprises a length of about 3 millimeters to about 5 millimeters.

8. (Original) The plasma tube according to claim 1, wherein the cylindrical body comprises a material selected from the group consisting of sapphire, quartz, alumina coated quartz and combinations comprising at least one the materials.

9. (Original) The plasma tube according to claim 2, wherein the protective coating comprises a dielectric material.

10. (Original) The plasma tube according to claim 9, wherein the dielectric material is silicon dioxide.

11. (Original) The plasma tube according to claim 1, wherein the conductive fiber is secured to an inner surface of the plasma tube.

12. (Original) The plasma tube according to claim 8, wherein the conductive fiber is secured to the body at an angle substantially parallel to a length of the tube.

13. (Original) The plasma tube according to claim 8, wherein the at least one fiber has a thickness less than about 100 microns.

14. (Previously presented) A plasma tool comprising:

a plasma generating chamber comprising a plasma tube, wherein the plasma tube comprises an open ended cylindrical body, wherein the body includes a gas inlet at one end an outlet opening at an other end, and at least one conductive fiber secured to the body and positioned to enhance an electric field, wherein the at least one conductive fiber is free from connection to a voltage power source; and

an energy source in operative communication with the plasma tube.

15. (Original) The plasma tool according to claim 14, wherein the energy source is selected from the group consisting of microwave energy, radiofrequency energy, and a combination comprising at least one of the foregoing energy sources.

16. (Original) The plasma tool according to claim 14, wherein the conductive fiber is encased with a dielectric material.

17. (Original) The plasma tool according to claim 14, wherein the conductive fiber comprises a material selected from the group consisting of tantalum, tungsten, molybdenum, aluminum, carbon, graphite, palladium, gold, copper, silver, platinum, ceramics, and composites or compositions comprising at least one of the foregoing materials.

18. (Original) The plasma tool according to claim 14, wherein the conductive fiber is a platinum coated silicon carbide fiber.

19. (Original) The plasma tool according to claim 14, wherein the conductive fiber is secured to an inner surface of the plasma tube.

20. (Original) The plasma tool according to claim 14, further comprising a light source, wherein radiation emitted from the light source is focused at a point within the plasma tube.

21. (Original) The plasma tool according to claim 20, wherein the radiation comprises ultraviolet radiation.

22. (Original) The plasma tool according to claim 20, wherein the at least one fiber has a thickness less than about 100 microns.

23. (Original) The plasma discharge tool according to claim 14, wherein the at least one fiber is at least partially aligned with the electric field.

24. (Original) The plasma discharge tool according to claim 14, wherein the at least one fiber is at substantially parallel to the applied electric field.

25. (Previously presented) A process for reducing the electric field breakdown point of a gas, the process comprising:

securing a conductive fiber to a surface of a plasma tube, wherein the plasma tube comprises an open ended cylindrical body, wherein the body includes a gas inlet at one end, an outlet at an other end, and at least one conductive fiber in contact with the body and positioned to enhance an electric field, wherein the at least one conductive fiber is free from connection to a voltage power source;

flowing a gas into the gas inlet of the plasma tube;

applying an electric field to the gas flowing in the plasma tube to form a plasma; and

discharging the plasma from the outlet of the plasma tube.

26. (Original) The process according to claim 25, further comprising focusing radiation emitted from a light source at a point within the plasma tube.

27. (Original) The process of claim 25, wherein the applied electric field is generated from an energy source selected from the group consisting of microwave energy, radiofrequency energy, and combinations comprising at least one of the energy sources.

28. (Original) The process of claim 25, wherein the conductive fiber comprises a material selected from the group consisting of tantalum, tungsten, gold, copper, silver, molybdenum, aluminum, carbon, graphite, palladium, platinum, ceramics, and composites or compositions comprising at least one of the foregoing materials.

29. (Original) The process of claim 25, wherein the conductive fiber is secured to the body at an angle substantially parallel to the plasma tube.

30. (Original) The process of claim 25, wherein the at least one fiber has a thickness less than about 100 microns.

31. (Original) The process of claim 25, wherein the gas flows at a pressure less than 1 atmosphere.

32. (Original) The plasma tube according to claim 1, wherein the at least one conductive fiber is separated from an additional conductive fiber by a distance greater than about 3 millimeters.

33. (Original) The plasma tube according to claim 14, wherein the at least one conductive fiber is separated from an additional conductive fiber by a distance greater than about 3 millimeters.

34. (Original) The process according to claim 25, further comprising securing an additional conductive fiber to the plasma tube positioned to enhance the electric field, wherein the additional conductive fiber is separated from the conductive fiber by a distance greater than about 3 millimeters.

35. (Original) The process according to claim 25, wherein the gas flows at a pressure greater than 1 atmosphere.

36. (Original) The process according to claim 25, wherein the gas flows at a pressure up to about 5 atmospheres.

37. (New) A plasma tube comprising:

an open ended cylindrical body, wherein the body includes a gas inlet at one end, and an outlet at an other end; and

at least one conductive fiber secured to the body and positioned to enhance an electric field, wherein the at least one conductive fiber is free from connection to a voltage power source and wherein the conductive fiber comprises a length of less than about 10 millimeters.